

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

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In re the Application of: **Satoshi SANO et al.**

Group Art Unit: **2677**

Application Number: **09/875,084**

Examiner: **Kimhung T. Nguyen**

Filed: **June 7, 2001**

Confirmation Number: **6212**

For: **OPTICAL SCANNING-TYPE TOUCH PANEL**

Attorney Docket Number: **010671**

Customer Number: **38834**

SUBMISSION OF APPEAL BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

February 28, 2006

Sir:

Applicants submit herewith an Appeal Brief in the above-identified U.S. patent application.

Attached please find a check in the amount of \$500.00 to cover the cost for the Appeal Brief.

If any additional fees are due in connection with this submission, please charge our Deposit Account No. 50-2866.

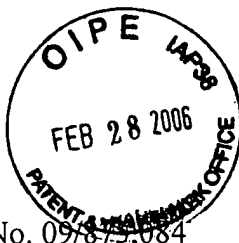
Respectfully submitted,

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Appeal Brief
Application No. 09/875,084



Attorney Docket No. 010671

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

APPEAL BRIEF FOR THE APPELLANT

Ex parte Satoshi SANO et al. (applicants)

OPTICAL SCANNING-TYPE TOUCH PANEL

Serial Number: **09/875,084**

Filed: **June 7, 2001**

Appeal No.:

Group Art Unit: **2677**

Examiner: **Kimhung T. Nguyen**

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Date: **February 28, 2006**

BRIEF ON APPEAL

(I) REAL PARTY IN INTEREST

The real party in interest is **FUJITSU LIMITED**, by an assignment recorded in the U. S. Patent and Trademark Office on June 7, 2001, at Reel 011881, Frame 0478.

(II) RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to appellant, appellant's legal representative, or assignee that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(III) STATUS OF CLAIMS

Pending claims 1-4 and 6-7 stand rejected. Claim 5 was objected to as being dependent upon a rejected base claim, but was indicated to be allowable if rewritten in independent form. Claim 8 was allowed. The claims on appeal are claims 1-4 and 6-7.

(IV) STATUS OF AMENDMENTS

No amendments were filed subsequent to the final rejection.

(V) SUMMARY OF THE CLAIMED SUBJECT MATTER

There are three independent claims on appeal in the present application, claims 1, 6 and 7.

Claim 1

The invention recited in claim 1 is an optical scanning-type touch panel (see, e.g., Fig. 1 of appellants' application), comprising an optical scanning unit (e.g., element 14, Fig. 2) for angularly scanning light in a plane substantially parallel to a predetermined region (see, e.g., page 9, line 17 – page 10, line 22; and particularly page 9, line 25 – page 10, line 2 and page 10, lines 11-16 of appellants' specification); a mirrored deflecting unit (e.g., element 15, Fig. 2) for deflecting scanning light of said optical scanning unit (see, e.g., page 10, lines 2-7); and a light receiving unit (e.g., element 13, Fig. 2) for receiving the deflected scanning light (see, e.g., page 10, lines 6-9 and lines 18-19), for detecting a scanning light cut-off position, which is produced in said predetermined region by an indicator, based on a light receiving output of said light receiving unit that corresponds to a scanning angle (see, e.g., page 10, lines 19-22; and page 11, line 20 – page 12, line 21), wherein said deflecting unit has an asymmetrical shape about an optical axis (see, e.g. Figs. 5, 6, 9 and 10, and page 14, lines 7-13 and lines 21-25).

Claim 6

The invention recited in claim 6 is an optical scanning-type touch panel (see, e.g., Fig. 1 of appellants' application), comprising an optical scanning unit (e.g., element 14, Fig. 2) for angularly scanning light in a plane substantially parallel to a predetermined region (see, e.g., page 9, line 17 – page 10, line 22; and particularly page 9, line 25 – page 10, line 2 and page 10, lines

11-16 of appellants' specification); a deflecting unit (e.g., element 15, Fig. 2) for deflecting scanning light of said optical scanning unit (see, e.g., page 10, lines 2-7); and a light receiving unit (e.g., element 13, Fig. 2) for receiving the deflected scanning light (see, e.g., page 10, lines 6-9 and lines 18-19), for detecting a scanning light cut-off position, which is produced in said predetermined region by an indicator, based on a light receiving output of said light receiving unit that corresponds to a scanning angle (see, e.g., page 10, lines 19-22; and page 11, line 20 – page 12, line 21),

wherein said optical scanning-type touch panel satisfies a condition $d/2 + w < D \tan \delta$ (see, e.g., Fig. 14 and page 19, lines 4-7), where D is a distance from said optical scanning unit to said deflecting unit (see, e.g., page 18, lines 18-19), w is a width on said deflecting unit from a path of said scanning light to an end on said predetermined region side (see, e.g., page 18, lines 19-21), d is a beam width of said scanning light (see, e.g., page 18, line 25 - page 19, line 1) and δ is a scanning start angle (see, e.g., page 18, lines 7-10).

Claim 7

The invention recited in claim 7 is an optical scanning-type touch panel (see, e.g., Fig. 1 of appellants' application), comprising a light retro-reflector (e.g., element 7, Fig. 1) provided outside a predetermined region (see, e.g., page 9, lines 13-16); an optical scanning unit (e.g., element 14, Fig. 2) for angularly scanning light in a plane substantially parallel to said predetermined region (see, e.g., page 9, line 17 – page 10, line 22; and particularly page 9, line 25 – page 10, line 2 and page 10, lines 11-16 of appellants' specification); and

a light receiving unit (e.g., element 13, Fig. 2) for receiving reflected light of scanning light of said optical scanning unit (see, e.g., page 10, lines 6-9 and lines 18-19) from said light retro-reflector (see, e.g., page 10, lines 4-7 and lines 16-19), for detecting a scanning light cut-off position, which is produced in said predetermined region by an indicator, based on a light receiving output of said light receiving unit that corresponds to a scanning angle (see, e.g., page 10, lines 19-22; and page 11, line 20 – page 12, line 21),

wherein said optical scanning unit is provided with a protective film (e.g., element 14a Fig. 15) having a maximum reflectance at an angle of incidence corresponding to a scanning angle at which a quantity of said reflected light is minimum (see, e.g., page 15, lines 18-20 and page 20, lines 7-20).

(VI) ISSUES TO BE REVIEWED ON APPEAL

Appellants appeal the final rejection of claims 1 – 2 under 35 U.S.C. §102(b) as being anticipated by **Caswell et al.** (U.S. Patent No. 4,762,990). Appellants appeal the final rejection of claims 3 – 4 under 35 U.S.C. §103(a) as being unpatentable over **Caswell et al.** Appellants appeal the final rejection of claim 7 under 35 U.S.C. §103(a) as being unpatentable over **Caswell et al.** in view of **Brandt** (U.S. Patent No. 5, 438,446). Appellants appeal the final rejection of claim 6 under 35 U.S.C. §102(e) as being anticipated by EP 0897161.

(VII) ARGUMENT

Appellants explain hereinbelow why the claim rejections should be reversed. Each rejection is addressed individually.

The rejection of claims 1 and 2 under 35 U.S.C. §102(b) as being anticipated by Caswell et al. should be reversed

As will be discussed in detail below, appellants submit that **Caswell et al.** do not disclose or suggest all of the elements of the invention recited in independent claim 1, and claim 2 which depends therefrom. Therefore, the rejection of claims 1 and 2 under §102 is improper and should be withdrawn.

More specifically, it is well established that anticipation under §102 is established only if all the elements of an invention, as stated in the claim, are identically set forth in a single prior art

reference. Moreover, it is not sufficient that each element be found somewhere in the reference, the elements must be arranged as in the claim. *Lindemann Maschinenfabrik GMBH v. American Hoist and Derrick Co.*, 703 F.2d 1452, 1458 (Fed.Cir. 1984).

The Caswell et al. reference does not disclose all of the elements recited in claims 1 and 2

Claims 1 and 2 are argued separately

Caswell et al. disclose a system for determining the coordinates of a user positioned object (e.g., a stylus) in a work space based on a localized change in light level (see, e.g., col. 2, line 63 – col. 3, line 5). More particularly, the **Caswell et al.** system includes a laser light source 6 and a rotating mirror 2 that form a sweeping light source to sweep light over a work area 1. A directly reflecting member 4, such as a mirror, and retroreflecting material 5, such as a beaded glass strip, border the work area 1. The reflecting members 4, 5 in combination with the sweeping light source produce a background light level against which variations in light level may be sensed. The light level and any variations of the light level are deflected by a partially silvered mirror 7 to a focusing lens 8 that collects and focuses light on a photocell 9. See Fig. 1 and column 3, lines 11-58. Furthermore, as shown in Fig. 10, an arc shaped reflector may be provided to focus retroreflected light onto the photocell 9.

In the final Office Action mailed June 29, 2005, the Examiner relies on the arc shaped reflector 32 shown in Fig. 10 of **Caswell et al.** to teach the claimed *mirrored deflecting unit having an asymmetrical shape about an optical axis*, as recited in claim 1. However, unlike the

claimed invention, the arc shaped reflector 32 does not have an asymmetrical shape about an optical axis.

Firstly, the written description of **Caswell et al.** does not disclose or suggest that the arc shaped reflector 32 has an asymmetrical shape about an optical axis. More specifically, as stated in column 7, lines 5-8 of **Caswell et al.**, “an arc shaped reflector 32 with a *central* opening 33 serves the function of permitting light from the laser 6 to pass through the opening 33...” [emphasis added]. Because the opening 33 in the arc shaped reflector 32 is described as a central opening, this indicates that the opening 33 is in the center of the reflector 32. Further, because the opening 33 in the arc shaped reflector 32 is a central opening, the arc shaped reflector 32 would be *symmetrical* with respect to an optical axis of the optics used to create the laser beam from laser 6. Thus, unlike the claimed invention, the written description in **Caswell et al.** clearly does not disclose or suggest that the arc shaped reflector 32 has an asymmetrical shape about an optical axis.

Secondly, the drawings do not disclose or suggest that the arc shaped reflector 32 has an asymmetrical shape about an optical axis. To the contrary, the drawings indicate that the arc shaped reflector 32 has a symmetrical shape about an optical axis. The Manual of Patenting Examining Procedure (MPEP) §2125, states “Drawings and pictures can anticipate claims if they *clearly* show the structure which is claimed.” [emphasis added] *In re Mraz*, 455 F.2d 1069, 173 USPQ 25 (CCPA 1972). It is submitted that Fig. 10 does not at all show that the arc shaped reflector 32 is asymmetrical about an optical axis. To the contrary, it is submitted that Fig. 10 shows the arc shaped reflector with a symmetrical shape about an optical axis. In fact,

measurement of drawing Fig. 10 showing the two sides of the arc shaped reflector 32 on either side of the central opening 33 reveals that the two sides on either side of the central opening 33 are both slightly more than 5 mm in length. Accordingly, it is submitted that drawing Fig. 10 shows an arc shaped reflector 32 having a symmetrical shape about an optical axis, and does not *clearly* show an asymmetrical shape about an optical axis.

Further, the MPEP §2125 states “The description of the article pictured can be relied on, in combination with the drawings, for what they would reasonably teach one of ordinary skill in the art.” It is submitted that the combination of the description of the opening 33 being in a central portion of the arc shaped reflector 32 and the drawing Fig. 10 showing that the opening 33 is in the center of the arc shaped reflector 32 reasonably teaches to one of ordinary skill in the art that the arc shaped reflector 32 has *a symmetrical shape* about the optical axis of the laser 6.

Therefore, it is submitted that the **Caswell et al.** reference does not disclose or suggest a deflecting unit having an asymmetrical shape about an optical axis, and therefore does not anticipate the invention recited in claim 1. Accordingly, appellants request that the Board reverse the rejection of claim 1 under §102 for the reasons set forth above.

Claim 2 depends from claim 1 and recites “wherein the shape of said deflecting unit is asymmetrical in a scanning direction.” It is submitted that because **Caswell et al.** does not disclose or suggest that the arc shaped reflector 32 has an asymmetrical shape (see discussion with respect to claim 1 above), the arc shaped reflector is not asymmetrical in a scanning direction, or any direction for that matter. Therefore, the **Caswell et al.** reference does not

anticipate the invention recited in claim 2. Accordingly, appellants request that the Board reverse the rejection of claim 2 under §102 for the reasons set forth above.

The rejection of claims 3 – 4 under 35 U.S.C. §103(a) as being unpatentable over Caswell et al. should be reversed

There is no incentive or motivation for modifying the Caswell et al. reference and therefore a prima facie case of obviousness has not been established

Claims 3 and 4 are argued separately

Claim 3 depends from claim 1 and claim 4 depends from claim 3.

Initially, it is noted that the **Caswell et al.** reference was first cited against claims 3 and 4 in the Office Action mailed November 8, 2004. The rejection of claims 3 and 4 over **Caswell et al.** set forth in the November 8, 2004 Office Action was traversed in the Amendment under 37 C.F.R. §1.111 filed on March 8, 2005. However, the final Office Action mailed June 29, 2005 did not address the patentability arguments with respect to claims 3 and 4 submitted with the March 8, 2005 response. Therefore, the patentability arguments traversing the rejection of claims 3 and 4 over **Caswell et al.** were reiterated in the Request for Reconsideration under 37 C.F.R. §1.116 filed on September 29, 2005. However, the Advisory Action mailed October 25, 2005 in response to the Request for Reconsideration under 37 C.F.R. §1.116 still did not address the patentability arguments regarding claims 3 and 4.

Accordingly, in view of the fact that the patentability arguments, as set forth in the March 8, 2005 response, traversing the rejection of claims 3 and 4 over **Caswell et al.** have never been

responded to by the Examiner, the following arguments reiterate and expand upon the arguments with respect to claims 3 and 4 originally presented in the March 8, 2005 Amendment under 37 C.F.R. §1.111.

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In the rejection of claims 3 and 4, the **Caswell et al.** reference is the only reference applied in the rejection. The Examiner recognizes that **Caswell et al.** do not disclose or suggest a deflecting unit “wherein the shape of said deflecting unit is asymmetrical in a height direction” (claim 3) or a deflecting unit “wherein a height of said deflecting unit is substantially equal to a height of said optical scanning unit” (claim 4).

The incentive or motivation offered by the Examiner for modifying the **Caswell et al.** reference to arrive at the invention recited in claims 3 and 4 is based on case law that allegedly holds that “a change in size/shape is generally recognized as being within the level of ordinary skill in the art” (see page 4, Item 5 of Office Action mailed June 29, 2005). The Examiner cites *In re Rose*, 105 USPQ 237 (CCPA 1955) and *In re Reven*, 156 USPQ 679 (CCPA 1968).

However, firstly, it is submitted that the Examiner’s rejection of claims 3 and 4 is based on an incorrect application of current case law. According to current case law, a change in size

or shape may or may not be obvious under §103 *depending on the effect of the change in size or shape*.

The *Manual of Patent Examining Procedure* (MPEP) §2144.04 indicates that a change in size or proportion is not patentably distinct from the prior art only when the change in size or shape results in a device that would not perform differently from the prior art. More particularly, the MPEP cites *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), *cert. denied*, 469 U.S. 830, 225 USPQ 232 (1984), in which the Federal Circuit held that, where the *only difference* between the prior art and the claims was a recitation of relative dimensions of the claimed device **and** a device having the claimed relative dimensions *would not perform differently* than the prior art device, the claimed device was not patentably distinct from the prior art device.

Further, the MPEP indicates that a change in shape may be obvious if there is no significance to the change in shape. More specifically, the MPEP cites *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) in which the court held that the configuration of the claimed disposable plastic nursing container was a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed container was significant.

However, in accordance with the presently claimed invention, the change in size and/or shape of the deflecting unit is significant in that the change in size and/or shape clearly results in performance that is different from the prior art. For example, as set forth on page 14, lines 21-25 of the present application, designing the shape of the deflecting unit (aperture mirror) such that it

is asymmetrical in the height direction is preferable in creating a large light receiving area. Thus, the claimed invention (claims 3 and 4) clearly performs differently from the **Caswell et al.** device and is patentably distinct from the **Caswell et al.** device. Further, claim 4 does not recite a mere change in size or shape. Claim 4 recites a height of the deflecting unit relative to a height of the optical scanning unit is the substantially the same. This results in the change in performance of the system, as discussed on page 15, lines 4-6 of the present application, and is not a mere change in size or shape.

Thus, the change in size and/or shape recited in claims 3 and 4 is significant in that it improves the performance of the present invention.

Accordingly, for the reasons set forth above, it is submitted that claims 3 and 4 do not recite “mere” changes in size and shape that would render these claims obvious in view of **Caswell et al.** Therefore, it is submitted that there is no motivation or incentive to modify the **Caswell et al.** reference to arrive at the invention recited in claims 3 and 4, and a *prima facie* case of obviousness has not been established.

Appellants request that the Board reverse the rejection of claims 3 and 4 under §103 for the reasons set forth above.

The rejection of claim 7 under 35 U.S.C. §103(a) as being unpatentable over Caswell et al. in view of Brandt should be reversed

The Examiner has not established a prima facie case of obviousness because the combination of references does not teach all elements recited in claim 7

As will be discussed in detail below, it is submitted that the combination of **Caswell et al.** and **Brandt** does not teach all of the elements recited in claim 7, and therefore does not result in the invention recited in claim 7. More specifically, “To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.” *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Because the combination of **Caswell et al.** and **Brandt** do not teach or suggest all the limitations recited in claim 7, the rejection under §103 is improper and should be reversed.

The final Office Action asserts that **Caswell et al.** disclose all features recited in claim 7, except for *the optical scanning unit provided with a protective film having a maximum reflectance at an angle of incidence corresponding to a scanning angle at which a quantity of reflected light is minimum*. The Examiner relies on the **Brandt** reference to teach the features missing from **Caswell et al.**

However, as discussed in detail below, it is submitted that **Brandt** does not disclose or suggest *the optical scanning unit provided with a protective film having a maximum reflectance at an angle of incidence corresponding to a scanning angle at which a quantity of reflected light is minimum*. Therefore, even if the references are combined, **Brandt** does not alleviate the deficiencies of **Caswell et al.** and the combination does not result in the claimed invention.

Brandt teaches a scanning polygon mirror 20 that is coated with a substance that minimizes reflectance variations in a range of incident light beam scanning angles (col. 6, lines 40-46). In particular, Fig. 4 of **Brandt** illustrates a portion of a facet of a polygon shaped rotating mirror (e.g., 20, Fig. 2), the facet having a coating (such as SiO₂) designed to minimize

reflectance variations in a range of incident light beam scanning angles (see, e.g., column 5, lines 45-54 and column 6, lines 40-47). A thickness T_1 of the coating is chosen to minimize variations in reflectance over a range of angular displacement of the mirror 20 in relation to a light source (see Abstract).

To explain the “reflectance variation” discussed in **Brandt**, referring to Figs. 2 and 3 of **Brandt**, when an incident light beam 50 strikes a facet 21 of the polygon mirror 20 at different angles with respect to normal (i.e., 90°), the beam 50 reflects off the polygon mirror 20 at different angles (15° , 30° , and 45°). If reflectance varies over the angular range of incident light beam 50, then the intensity of the scanning beam will likewise vary across the planar array (see col. 5, line 62 – col. 6, line 16). Thus, the objective of **Brandt** is to choose a thickness of a coating on the polygon mirror 20 that minimizes reflectance variations in a range of incident light beam scanning angles (col. 6, lines 40-46) so that the intensity of the scanning beam does not vary. As shown in Fig. 5 of **Brandt**, the optimum thickness is at around 100 nm and 180 nm (see col. 6, lines 48-54).

Thus, according to **Brandt**, the coating on the polygon mirror functions to *minimize reflectance variations between different incident light beam angles*. Unlike **Brandt**, the protective film recited in claim 7 functions to provide a *maximum reflectance at an angle of incidence corresponding to a scanning angle at which a quantity of reflected light is a minimum*. The coating of **Brandt** and the protection film recited in claim 7 clearly function differently.

Brandt does not disclose or suggest a protective film whose maximum reflectance is set according to an angle of incidence corresponding to a scanning angle at which a quantity of reflected light is a minimum.

In view of the above-noted deficiencies of **Brandt**, it is submitted that the combination of **Caswell et al.** and **Brandt** does not result in the invention recited in claim 7. Accordingly, appellants request that the Board reverse the rejection of claim 7 under §103 for the reasons set forth above.

The rejection of claim 6 under 35 U.S.C. §102(e) as being anticipated by EP 0897161 should be reversed.

EP 0897161 does not disclose or suggest all elements recited in claim 6

Anticipation under §102 is established only if *all the elements* of an invention, as stated in the claim, are identically set forth in *a single* prior art reference. Moreover, it is not sufficient that each element be found somewhere in the reference, the elements must be “*arranged as in the claim.*” *Lindemann Maschinenfabrik GMBH v. American Hoist and Derrick Co.*, 703 F.2d 1452, 1458 (Fed.Cir. 1984).

Initially, it is noted that, in a response filed March 8, 2005, appellants set forth detailed patentability arguments addressing the rejection of claim 6 set forth in the Office Action mailed November 8, 2004. However, the final Office Action mailed June 29, 2005 did not address appellants patentability arguments regarding claim 6 set forth in the response filed on March 8, 2005. Instead, the final Office Action simply repeated the exact same rejection set forth in the

Office Action mailed November 8, 2004. Accordingly, the patentability arguments set forth hereinbelow address the Examiner's most recent position, which corresponds to the position set forth in the Office action mailed November 8, 2004.

The invention recited in claim 6 is directed to an optical scanning-type touch panel wherein the positions of the respective optical members are designed to, for example, eliminate unnecessary space for mounting, scan light within the scanning range and receive the reflected light, and receive only the recurrence reflected light even at the start of scanning (see, e.g., page 19, lines 4-11 of the present application). The optical members of the optical scanning-type touch panel recited in claim 6 satisfy the condition $d/2 + w < D \tan \delta$, where D is a distance from an optical scanning unit to a deflecting unit, w is a width on the deflecting unit from a path of the scanning light to an end on a predetermined region side, d is a beam width of the scanning light and δ is a scanning start angle.

The Examiner asserts that Figs. 1 and 3 of EP 0897161 disclose the invention recited in claim 6. However, EP 0897161 does not disclose or suggest the relationship $d/2 + w < D \tan \delta$ between component optical members of an optical scanning-type touch panel, as recited in claim 6. In the November 8, 2004 Office Action, the Examiner supplied a handwritten copy of drawing Fig. 3 from EP 0897161 in support of the rejection of claim 6. A copy of the Examiner's handwritten drawing is attached as Attachment A.

However, the Examiner's handwritten drawing supporting the rejection of claim 6 distorts the scanning start angle δ of actual Fig. 3 in EP 0897161 in order to make the drawing fit the equation $d/2 + w < D \tan \delta$. In other words, by making the scanning start angle δ large, $D \tan \delta$ is

made large to satisfy the equation $d/2 + w < D \tan \delta$. This is improper under §102. Under §102, the Examiner must find all elements of the claim either expressly or inherently in the prior art reference. The Examiner cannot supply dimensions or sizes of angles herself. As shown in Fig. 3 of EP 0897161, the scanning start angle is not nearly as large as shown in Attachment A.

Unlike the Examiner's portrayal of Fig. 3 in Attachment A, Fig. 3 of EP 0879161 does not disclose or suggest the invention recited in claim 6. Specifically, as discussed in paragraphs [0050] to [0056] of EP 0879161 and shown in Attachment B, Fig. 3 illustrates a half mirror 15a and a prism mirror 17a of a light send/receive unit 1a positioned in a housing 10a. The half mirror 15a and prism mirror 17a are outside of a reference line (see Attachment B) connecting a polygon mirror 16a and 16b, which are positioned in the light send/receive unit 1a and 1b, respectively, and at an angle θ with respect to the reference line so as to solve a problem that scanning light from the polygon mirror 16a is shielded by the half mirror 15a and the prism mirror 17a and thus sufficient scanning cannot be performed in the direction of the display screen 10.

Unlike EP 0879161, according to the presently claimed invention, as illustrated in Attachment C, which is similar to Fig. 14 of the present application, the angle δ of the present invention is defined for the following. For the structure of size w of the aperture mirror 15 and the width d of the aperture 15a, in the case where D represents the distance from the aperture mirror 15 to the polygon mirror 14, the angle δ between the optical axis of the beam having the width d and the optical axis of the start of scanning (SP) is defined to satisfy the condition $d/2 + w < D \tan \delta$.

Unlike the invention recited in claim 6, EP0879161 does not disclose or suggest the claimed " $D \tan \delta$ " in Fig. 3 and the specification of EP0879161.

Moreover, it is noted that the scan start angle δ is not specified in Fig. 3 of EP0897161 nor is it discussed in the disclosure. Furthermore, the dimensions of the beam width d , and the width w of the deflecting unit are also not clearly specified in the drawing nor are they discussed in the disclosure. The Examiner is relying on *only* the drawing figures to teach the claimed relationship $d/2 + w < D \tan \delta$. However, as set forth in the Manual of Patent Examining Procedure MPEP §2125, *drawings can anticipate claims only if they clearly show the structure which is claimed*. It is submitted that the drawings of EP0879161 do not clearly show the structure which is claimed.

Accordingly, it is submitted that EP 0897161 does not disclose or suggest all of the elements recited in claim 6 arranged as in the claim. Therefore, appellants request that the Board reverse the rejection of claim 6 under §102 for the reasons set forth above.

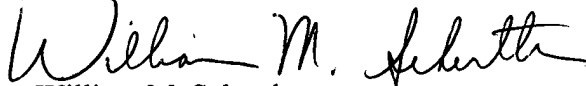
(VIII) CONCLUSION

For the reasons set forth above, appellants request that the Board of Patent Appeals and Interferences reverse the Examiner's rejection of claims 1-4 and 6-7

If this paper is not timely filed, appellants hereby petition for an appropriate extension of time. The fee for any such extension may be charged to our Deposit Account No. 50-2866, along with any other additional fees that may be required with respect to this paper.

Respectfully submitted,

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Enclosures: Attachment A
Attachment B
Attachment C

CLAIMS APPENDIX

1. An optical scanning-type touch panel, comprising:

an optical scanning unit for angularly scanning light in a plane substantially parallel to a predetermined region;

a mirrored deflecting unit for deflecting scanning light of said optical scanning unit; and

a light receiving unit for receiving the deflected scanning light, for detecting a scanning light cut-off position, which is produced in said predetermined region by an indicator, based on a light receiving output of said light receiving unit that corresponds to a scanning angle,

wherein said deflecting unit has an asymmetrical shape about an optical axis.
2. The optical scanning-type touch panel as set forth in claim 1,

wherein the shape of said deflecting unit is asymmetrical in a scanning direction.
3. The optical scanning-type touch panel as set forth in claim 1,

wherein the shape of said deflecting unit is asymmetrical in a height direction.
4. The optical scanning-type touch panel as set forth in claim 3,

wherein a height of said deflecting unit is substantially equal to a height of said optical scanning unit.

6. An optical scanning-type touch panel, comprising:

an optical scanning unit for angularly scanning light in a plane substantially parallel to a predetermined region;

a deflecting unit for deflecting scanning light of said optical scanning unit; and

a light receiving unit for receiving the deflected scanning light, for detecting a scanning light cut-off position, which is produced in said predetermined region by an indicator, based on a light receiving output of said light receiving unit that corresponds to a scanning angle,

wherein said optical scanning-type touch panel satisfies a condition

$$d/2 + w < D \tan \delta$$

where D is a distance from said optical scanning unit to said deflecting unit, w is a width on said deflecting unit from a path of said scanning light to an end on said predetermined region side, d is a beam width of said scanning light, and δ is a scanning start angle.

7. An optical scanning-type touch panel, comprising:

a light retro-reflector provided outside a predetermined region;

an optical scanning unit for angularly scanning light in a plane substantially parallel to said predetermined region; and

a light receiving unit for receiving reflected light of scanning light of said optical scanning unit from said light retro-reflector, for detecting a scanning light cut-off position, which

is produced in said predetermined region by an indicator, based on a light receiving output of said light receiving unit that corresponds to a scanning angle,

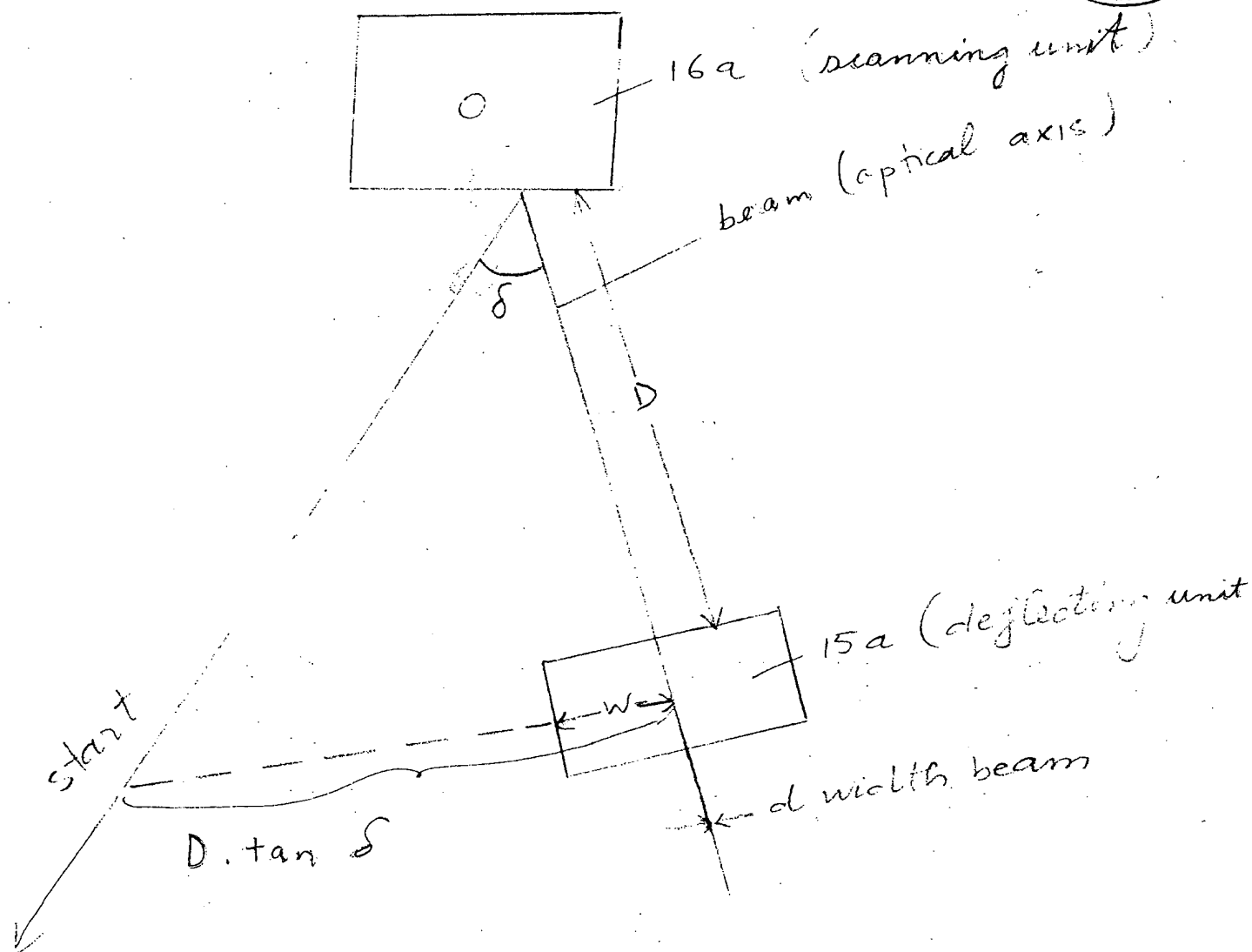
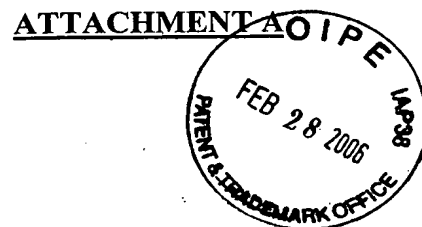
wherein said optical scanning unit is provided with a protective film having a maximum reflectance at an angle of incidence corresponding to a scanning angle at which a quantity of said reflected light is minimum.

EVIDENCE APPENDIX

No evidence under 37 C.F.R. § 41.37(c)(1)(ix) is submitted.

RELATED PROCEEDING APPENDIX

No decisions under 37 C.F.R. § 41.37(c)(1)(x) are rendered.



$$\frac{d}{2} + w < D \tan \delta$$



FIG. 3

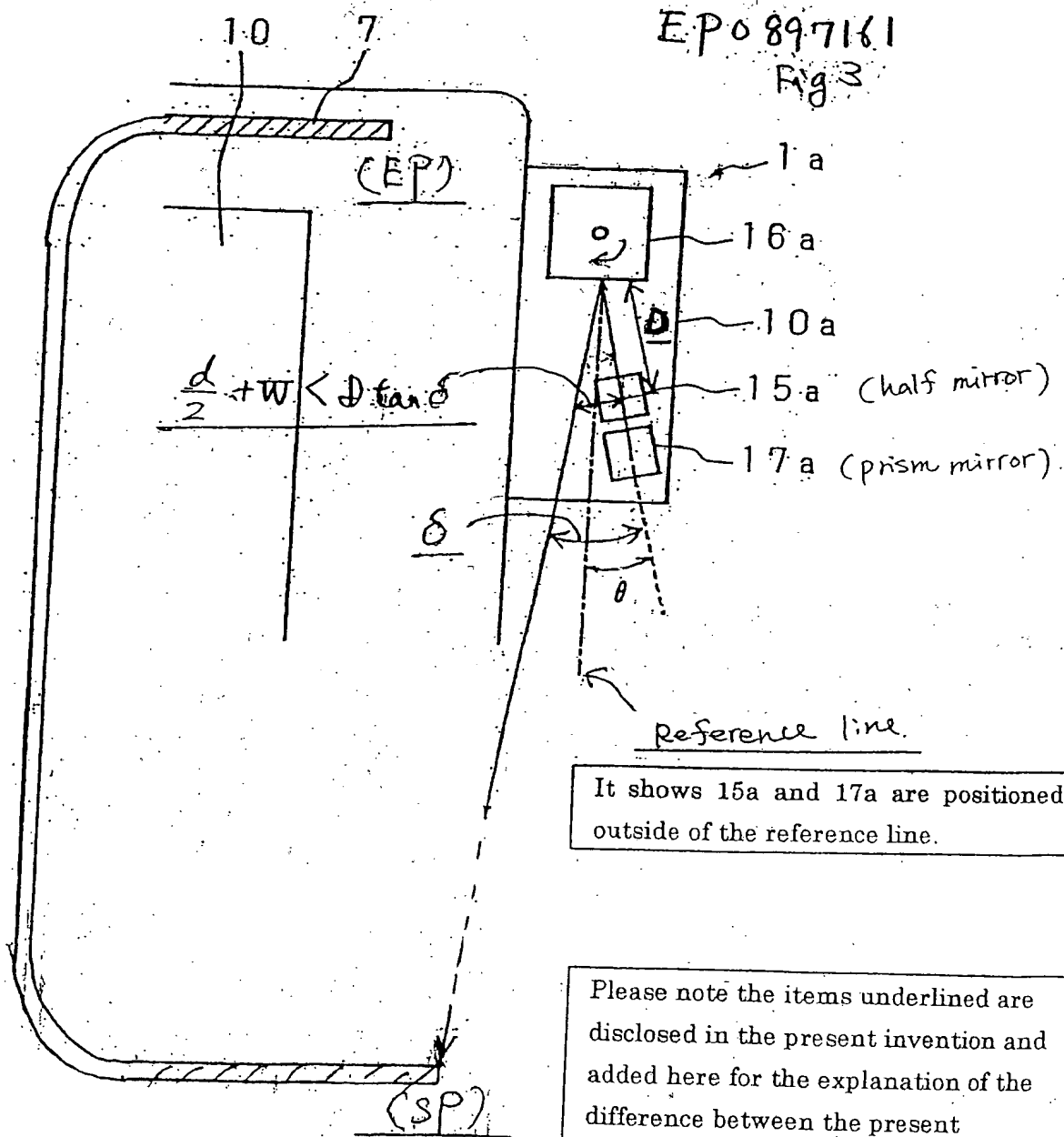


Fig. 3



FIG. 14

